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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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8791	7590	07/20/2005	EXAMINER	
BLAKELY SOKOLOFF TAYLOR & ZAFMAN 12400 WILSHIRE BOULEVARD SEVENTH FLOOR LOS ANGELES, CA 90025-1030			TAN, VIBOL	
			ART UNIT	PAPER NUMBER
			2819	

DATE MAILED: 07/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/796,353

Applicant(s)

DOUR ET AL.

Examiner

Vibol Tan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 1-10 and 22-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

Applicant elects the claims of group II including 10-21 for examination.

#### ***Claim Objections***

1. Claim 11 is objected to because of the following informalities: a first encoded condition in line 2, believed to be the first encoded condition already recited in claim 10; therefore, change "a..." to "the...". Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 10-12, 16, 17, 20 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Hsu et al. (U. S. PAT. 6,380,758).

In claim 10, Hsu teaches all claimed features in Fig. 7, an apparatus comprising: a test block (K feedback circuit 770<sub>1</sub> to provide K comparison result) to determine a condition on a chip (voltage level at the pad); an encoder (720) to encode the condition; and a compensation circuit (K driving circuit to control the impedance of K buffer at the pad) to adjust an on die termination circuit based on a first encoded condition (output from 740<sub>1</sub>).

In claim 11, Hsu further teaches the apparatus of claim 10, further comprising: a conversion circuit (760<sub>1</sub>) to convert the first encoded condition (the output from 740<sub>1</sub>) into an approximated second encoding (output from 760<sub>1</sub>).

In claim 12, Hsu further teaches the apparatus of claim 10, further comprising: a receiving circuit (760<sub>1</sub>) to receive an incoming signal (NCOMPEN 1-K), the receiving circuit to receive a third encoded condition (output from 750<sub>1</sub>) and compensate the termination of the signal for the condition (output from 760<sub>1</sub>).

Method claims 16 and 17 correspond to detailed circuitry already discussed similarly with regard to claims 10 and 11.

Claims 20 and 21 correspond to detailed circuitry already discussed similarly with regard to claims 10 and 11.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeLano (U. S. PAT. 2004/0225830 A1) in view of Hsu et al.

In claim 13, DeLano teaches all claimed features in Fig. 2, a system comprising: a processor (114); a first bus (not labeled) coupled to the processor; a memory device (134); a second bus (not labeled) coupled to the memory device; and a memory

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controller (138) coupled to the first and second buses; with the exception of teaching the memory controller having a programmable on die termination circuit. However, Hsu et al. teaches in Fig. 1 a memory controller (120) having a programmable on die termination circuit (125).

Therefore; it would have been obvious to one ordinary skill in the art at the time of the invention was made to implement the programmable a die termination circuit of Hsu et al. onto the system of DeLano in order to maintain reasonable balanced impedance, compensation codes are updated periodically.

In claim 14, DeLano further teaches the system of claim 13, wherein the memory controller can receive data over the second bus at a rate between 200 and 400 mega transfers per second [0011, line 12].

In claim 15, Hsu further teaches the system of claim 13 in Fig. 7, wherein the memory controller further comprises a testing circuit (K feedback circuit 770<sub>1</sub> to provide K comparison result) to determine a condition in the memory controller (voltage level at the pad) and generate an encoded signal (720 generates encoded signal) representing the condition, and wherein the encoded signal set (760<sub>1</sub>) the programmable on die termination circuit.

6. Claims 18 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu et al. in view of DeLano.

In claim 18, Hsu et al. teaches the method of claim 16; with the exception of teaching the method further comprising: receiving an external signal at a rate of 200 to 400 mega transfers per second (MTS) at the on die termination circuit.. However,

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Delano teaches receiving an external signal at a rate of 200 to 400 mega transfers per second (MTS) at the on die termination circuit [0011, line 12].

Therefore; it would have been obvious to one ordinary skill in the art at the time of the invention was made to implement the receiving of the external signal rate of 200 to 400 mega transfers per second at the termination die circuit onto the impedance control circuit of Hsu in order to provide a width of 16 bytes.

Claim 21 corresponds to detailed circuitry already discussed similarly with regard to claim 18.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vibol Tan whose telephone number is (571) 272-1811. The examiner can normally be reached on Monday-Friday (7:00 AM-4:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571) 272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**VIBOL TAN**  
**PRIMARY EXAMINER**